



June 27, 2017

Tom Moe USS Corporation P.O. Box 417 8771 Park Ridge Dr Mountain Iron, MN 55768

RE: Project: MinnTac NPDES-LINE 3 Wkly

Pace Project No.: 1289497

Dear Tom Moe:

Enclosed are the analytical results for sample(s) received by the laboratory on June 14, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Melisa M Woods

Massir Wirds

melisa.woods@pacelabs.com

(218)742-1042 Project Manager

Enclosures

cc: Terri Sabetti, NTS







CERTIFICATIONS

Project: MinnTac NPDES-LINE 3 Wkly

Pace Project No.: 1289497

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

California Certification #2973 Montana Certificate #CERT0103 California Certification #2973 Alaska Certification UST-107

Alaska Certification UST-107 Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification #: 998027470 WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842015-1

Oklahoma Department of Environmental Quality

California Certification #2973



SAMPLE SUMMARY

Project: MinnTac NPDES-LINE 3 Wkly

Pace Project No.: 1289497

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1289497001	WS-002 Scrubber Make-Up	Water	06/14/17 14:55	06/14/17 16:20
1289497002	WS-003 Thickner Overflow	Water	06/14/17 14:50	06/14/17 16:20



SAMPLE ANALYTE COUNT

Project: MinnTac NPDES-LINE 3 Wkly

Pace Project No.: 1289497

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1289497001	WS-002 Scrubber Make-Up	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	CSD	1	PASI-V
1289497002	WS-003 Thickner Overflow	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	CSD	1	PASI-V



ANALYTICAL RESULTS

Project: MinnTac NPDES-LINE 3 Wkly

Pace Project No.: 1289497

Date: 06/27/2017 03:19 PM

Sample: WS-002 Scrubber Make	e-Up Lab ID:	1289497001	Collected	d: 06/14/1	7 14:55	Received: 06/	14/17 16:20 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Lab Filtered	Analytical	Method: EPA	200.7 Prepa	aration Meth	nod: EP	A 200.7			
Calcium, Dissolved	119	mg/L	5.0	0.91	10	06/15/17 16:04	06/16/17 12:55	7440-70-2	
Magnesium, Dissolved	224	mg/L	5.0	0.68	10	06/15/17 16:04	06/16/17 12:55	7439-95-4	
Total Hardness, Dissolved	1220	mg/L	100	5.0	10	06/15/17 16:04	06/16/17 12:55		
300.0 IC Anions 28 Days	Analytical	Method: EPA	300.0						
Sulfate	817	mg/L	20.0	10.0	10		06/26/17 20:45	14808-79-8	
		ŭ							
	low I ah ID:	1289497002	Collected	d· 06/14/1	7 14:50	Received: 06/	14/17 16·20 Ma	atrix Water	
Sample: WS-003 Thickner Over	ilow Lab ID:	1289497002		d: 06/14/1	7 14:50	Received: 06/	14/17 16:20 Ma	atrix: Water	
	flow Lab ID:	1289497002 Units	Collected Report Limit	d: 06/14/1	7 14:50 DF	Received: 06/	14/17 16:20 Ma Analyzed	atrix: Water CAS No.	Qual
Sample: WS-003 Thickner Over	Results		Report Limit	MDL	DF	Prepared			Qual
Sample: WS-003 Thickner Overl	Results	Units	Report Limit	MDL	DF	Prepared		CAS No.	Qual
Sample: WS-003 Thickner Overfine Parameters 200.7 MET ICP, Lab Filtered Calcium, Dissolved	Results Analytical	Units Method: EPA	Report Limit 200.7 Prepa	MDL aration Meth	DF nod: EP	Prepared A 200.7	Analyzed	CAS No.	Qual
Sample: WS-003 Thickner Overd Parameters 200.7 MET ICP, Lab Filtered	Results Analytical	Units Method: EPA 2	Report Limit 200.7 Prepa	MDLaration Meth	DF nod: EP/	Prepared A 200.7 06/15/17 16:04	Analyzed 06/16/17 12:58	CAS No.	Qual
Sample: WS-003 Thickner Overform Parameters 200.7 MET ICP, Lab Filtered Calcium, Dissolved Magnesium, Dissolved	Results Analytical 633 250 2610	Units Method: EPA 2 mg/L mg/L	Report Limit 200.7 Prepa 5.0 5.0 100	MDL aration Meth 0.91 0.68	DF nod: EP/ 10 10	Prepared A 200.7 06/15/17 16:04 06/15/17 16:04	Analyzed 06/16/17 12:58 06/16/17 12:58	CAS No.	Qual



QUALITY CONTROL DATA

Project: MinnTac NPDES-LINE 3 Wkly

Pace Project No.: 1289497

QC Batch: 116645

QC Batch Method: EPA 200.7

LABORATORY CONTROL SAMPLE:

Parameter

Analysis Method:

EPA 200.7

Analysis Description:

200.7 MET Dissolved

Associated Lab Samples: 1289497001, 1289497002

METHOD BLANK: 460706 Matrix: Water

Associated Lab Samples:

1289497001, 1289497002

Blank

Reporting

Parameter Units Calcium, Dissolved mg/L mg/L Result Limit ND 0.50 ND 0.50 MDL Analyzed 0.091 06/16/17 11:51

0.068

Qualifiers

Magnesium, Dissolved

460707

LCS

Result

LCS % Rec

% Rec Limits

Qualifiers

Calcium, Dissolved Magnesium, Dissolved

mg/L mg/L

1289366001

Result

1289262013

Units

mg/L

mg/L

Units

50 50

Spike

Conc.

MS

Spike

Conc.

50

50

50.7 49.9

460709

MS

84.3

252

101 100 85-115

06/16/17 11:51

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

460708

33.7

196

MSD

Spike Conc. Result

50

50

MS

% Rec

85-115

% Rec Limits

Max **RPD** RPD Qual

Parameter

460710

MSD

460711

254

84.6

MSD

Result

101 102 111 116

MSD

% Rec

70-130 70-130

0 20 20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

Calcium, Dissolved

Magnesium, Dissolved

MS

Spike Spike

MS

MSD MS MSD

% Rec

70-130

Max Limits RPD RPD Qual 2 70-130 20

2

20

Parameter Units Result Conc. Conc. Result Result % Rec % Rec Calcium, Dissolved 50 37.6 50 89.1 90.6 103 106 mg/L 50 Magnesium, Dissolved 126 50 180 102 108 mg/L 177

Date: 06/27/2017 03:19 PM

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALITY CONTROL DATA

Project: MinnTac NPDES-LINE 3 Wkly

Pace Project No.: 1289497

QC Batch: 117505 QC Batch Method: EPA 300.0 Analysis Method: EPA 300.0 Analysis Description:

300.0 IC Anions

Associated Lab Samples: 1289497001, 1289497002

METHOD BLANK: 464644 Matrix: Water

Associated Lab Samples:

Date: 06/27/2017 03:19 PM

Sulfate

1289497001, 1289497002

Blank

Reporting

MDL Limit Qualifiers Parameter Units Result Analyzed ND 2.0 1.0 06/26/17 13:09 mg/L

LABORATORY CONTROL SAMPLE: 464645

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Sulfate mg/L 50 48.1 96 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 464646 464647

MS MSD 1289303001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD RPD Qual Sulfate 100 90-110 0 20 mg/L 29.0 100 130 130 101 101

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 464648 464649

MS MSD 1289883001 MS MSD MS Spike Spike MSD % Rec Max Limits RPD Parameter Units Result Conc. Conc. Result Result % Rec % Rec RPD Qual Sulfate 69.4 250 250 321 320 101 100 90-110 0 20 mg/L

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALIFIERS

Project: MinnTac NPDES-LINE 3 Wkly

Pace Project No.: 1289497

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

Date: 06/27/2017 03:19 PM

PASI-V Pace Analytical Services - Virginia



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MinnTac NPDES-LINE 3 Wkly

Pace Project No.: 1289497

Date: 06/27/2017 03:19 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1289497001	WS-002 Scrubber Make-Up	EPA 200.7	 116645	EPA 200.7	116678
1289497002	WS-003 Thickner Overflow	EPA 200.7	116645	EPA 200.7	116678
1289497001	WS-002 Scrubber Make-Up	EPA 300.0	117505		
1289497002	WS-003 Thickner Overflow	EPA 300.0	117505		

Section A
Required Client Information:

Section B

Company:

USS Corporation

CHAIN-OF-CUSTODY / Analytical Request D

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields me

Invoice Information:

Section C

Attention:

Address: P.O. Box 417 Mt. Iron, MN 55768 ITEM# equested Due Date WS-002 Scrubber Make-Up WS-003 Thickner Overflow One Character per box.
(A-Z, 0-9 I, -)
Sample lds must be unique **SAMPLE ID** F S S MATRIX
Drinking Water
Water
Waste Water
Product
Scil/Soild
Oil
Wipe
Air
Other Required Project Information:
Report To: Tom Moe
Copy To: Project#: Project Name: Purchase Order #: Section MATRIX CODE (see valid codes to left) ₹ ₹ SAMPLE TYPE (G=GRAB C=COMP) NPDES-LINE 3 Wkly \mathcal{O} START SSN. COLLECTED SIGNATURE ASSAURT DE MANOCL PRINT Name of SAMPLER: DATE 149 19 1485 8 14/30/3 SAMPLE TEMP AT COLLECTION 1620 # OF CONTAINERS Pace Quote: Pace Project Manager;
Pace Profile #: Company Name: Address: Homas Unpreserved H2SO4 HNO3 HCI Caser NaOH Na2S2O3 heather.zika@pacelabs.com Methanol Other #Analyses (Test YAIN LAB FILTERED: SO4 DATE Signed: $\overline{\times}$ X Lab FILTERED: Ca,Mg,Hai 6/14/17 1620 TEMP in C Residual Chlorine (Y/N) Received on LF,LF LF,LF lce (Y/N) Custody ح Sealed Cooler (Y/N) Samples Intact (Y/N)

PM: MMW W0#:1289497

Due Date: 06/28/17

CLIENT: USS CORP

Page 10 of 1/1



Document Name:

Sample Condition Upon Receipt Form

Document No.: F-VM-C-001-Rev.10

Document Revised: 15Mar2016 Page 1 of 1

Issuing Authority:

Pace Virginia, Minnesota Quality Office

Sample Condition Client Name: Upon Receipt			Project :	WO#: 1289497
Courier: Fed Ex UPS	USPS		liant	PM: MMW Due Date: 06/28/17
Commercial Pace	Other:		anerit.	CLIENT: USS CORP
Tracking Number:				
			_	Optional: Proj. Due Date: Proj. Name:
Custody Seal on Cooler/Box Present? Yes	No	Seals I	ntact? [Yes No Optional: Proj. Due Date: Proj. Name:
Packing Material: Bubble Wrap Bubble Ba	gs 🔽 N	one []Other:_	Temp Blank? Yes No
Thermometer Used: 140792808	Type of	Ice: 🖊	Wet [Blue None Samples on ice, cooling process has begun
Cooler Temp Read °C: 4.0 Cooler Temp C		•		
Temp should be above freezing to 6°C Correction Fac	tor: <u>†0</u>	Z	Date and	Biological Tissue Frozen? Yes No NA I Initials of Person Examining Contents: Comments:
Chain of Custody Present?	☐ es	No	□N/A	1.
Chain of Custody Filled Out?	☐ es	□No	□N/A	2.
Chain of Custody Relinquished?	□Ves	□No	□N/A	3.
Sampler Name and Signature on COC?	Yes	□No	□N/A	4.
Samples Arrived within Hold Time?	Yes	□No	□N/A	5. If Fecal: <pre> <8 hours</pre> >8, <24 hours >24 hours
Short Hold Time Analysis (<72 hr)?	Yes	No	□ N/A	6.
Rush Turn Around Time Requested?	□Yes	No	□N/A	7.
Sufficient Volume?	Yes	□No	□N/A	8.
Correct Containers Used?	Yes	□No	□n/a	9.
- Pace Containers Used?	√ es	□No	□N/A	
Containers Intact?	Yes	□No	□n/a	10.
Filtered Volume Received for Dissolved Tests?	□ res	□No	□n/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	Yes	□No	□N/A	12.
-Includes Date/Time/ID/Analysis Matrix: V	17			
All containers needing acid/base preservation will be checked and documented in the pH logbook.	□Yes	□No	ØN/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	Yes	□No	N/A	13.
Headspace in VOA Vials (>6mm)?	Yes	□No	N/A	14.
Trip Blank Present?	∐Yes	□No	N/A_	15.
Trip Blank Custody Seals Present?	□Yes	□No	□W/A	•
Pace Trip Blank Lot # (if purchased):				
CLIENT NOTIFICATION/RESOLUTION				Field Data Required? Yes No
Person Contacted:			[Date/Time:
Comments/Resolution:				
	•			
FECAL WAIVER ON FILE Y N		TEM	PERATU	RE WAIVER ON FILE Y N
Project Manager Poulsus	J/-	20/)	Day 1/14/m
Project Manager Review:	a compliance	20/1 samples	a conv of th	Date:
old, incorrect preservative, out of temp, incorrect containers)	_ 2011.p1101100	- 50p.c.s,	oupy of th	be sent to the Hotal data and self the certification of the